

Section J

Sudan Black

Subsection 6

Name of Procedure:

Sudan Black

Suggested Uses:

Sudan Black is used to enhance dried stain deposits or greasy impressions on non-porous items of evidence. Sudan Black is less sensitive than other dyes which may be used. It should be considered for use on items which may be contaminated with grease, foodstuffs or dried deposits of soft drinks. This process will stain the fatty components of sebaceous sweat producing a blue-black impression.

Equipment Needed to Perform Procedures:

- A - Protective clothing and rubber glove
- B - Face shield visor and/or safety goggles
- C - Magnetic stirrer, magnetic follower and magnetic retriever
- D - Glass beakers
- E - Glass processing trays
- F - Camera (35 mm, 2 1/4, MP-4, CU 5, TC III)
- G - Fume hood

Chemicals Needed For Preparation of Chemical Solution(s):

- A - Fifteen (15) grams of Sudan Black
- B - One-thousand (1000) ml of methanol

Formula/Directions for Preparation of Chemical Solution(s):

1. Place fifteen (15) grams of Sudan Black in a large glass beaker with a magnetic stirrer.
2. Add one-thousand (1000) ml of methanol to the beaker and stir until the solution is thoroughly mixed.

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3. Add five-hundred (500) ml of distilled water to the solution with continual stirring.
4. Place the solution in a dark shatterproof container until needed.

Note: All of the Sudan Black will not dissolve and some sediments will remain.

Processing Procedures for Application to Item(s) of Evidence:

Note: Shake the solution prior to use to ensure the dye is evenly distributed. If a film appears on the solution prior to use, remove it with a tissue or blotter paper and discard.

Immersion Method:

1. Place a sufficient amount of the Sudan Black staining solution in a tray to completely immerse the item for approximately two (2) minutes.
2. Remove the item from the solution and place in a separate tray of distilled water or under running tap water to remove the excess dye.
3. Allow the item to completely air-dry prior to proceeding (Do not use heat to accelerate this process). Developed impression will appear blue-black and the above steps may be repeated to improve contrast.

Spray Method:

1. Spray the item with a sufficient amount of the solution from a spray or squirt bottle to completely cover the area of interest.
2. Using a spray or squirt bottle, spray the item with distilled water to remove the excess dye.
3. Allow the item to completely air-dry prior to proceeding (Do not use heat to accelerate this process).

Note: The used solution may be reused if no contamination is noted after processing.

Steps to Preserve Developed Impressions:

The most appropriate methods in preserving developed impressions is through photography, using the appropriate techniques (See Photographic Equipment/Procedures), and electronic

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recording (See Image Processing). The impression may be enhanced with the use of lasers and/or alternate light sources. The ridges of a developed impression will be blue-black and this must be considered when recording the impressions.

Safety Concerns:

Presently there are no major safety concerns associated with the use of this technique. Methanol is flammable and can be harmful if inhaled or ingested. Always use a fume hood when mixing and/or processing evidence. Protective gloves, eye goggles and protective clothing should be worn at all times as the staining solution will stain clothing and skin.

This technique may be used conveniently at crime scenes; however, only use in well-ventilated areas or utilize a fan to remove the fumes produced.

Storage and Location of Chemicals and Solutions:

Sudan Black reagent should be stored in the original shipping container until needed.

Shelf Life:

Both solutions and reagent - Indefinite

Other Information:

The solutions may be reused after use; however, should be discarded if contamination occurs.

Sudan Black may be used on surfaces which are extremely contaminated with greasy deposits or soiled with heavy concentrations of dried fluids.

This process should not be used on dark or printed plastic surfaces. This may affect the contrast needed to view and photograph the developed impressions.

All serological or document examinations should be conducted prior to treatment with Sudan Black.

Larger amounts of Sudan Black may be mixed for large items or use at crime scenes.